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Patent

Case No.: 53325US002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: KHIEU, SITHYA. S.

Application No.: 10/033957

Group Art Unit: 3671

Filed:

December 31, 2001

Examiner: Hartmann, Gary S.

Title:

MATRIX ELEMENT PAVEMENT MARKER AND METHOD OF MAKING

BRIEF ON APPEAL

Mail Stop Appeal Brief-Patents
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, VA 22313-1450

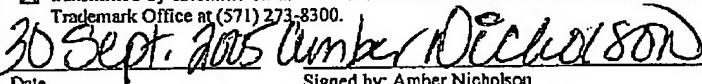
CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR § 1.8(a)]

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Date

Signed by: Amber Nicholson



Dear Sir:

This is an appeal from the Office Action mailed on June 23, 2005. The fee required under 37 CFR § 41.20(b)(2) for filing an appeal brief should be charged to Deposit Account No. 13-3723.

REAL PARTY IN INTEREST

The real party in interest is 3M Company (formerly known as Minnesota Mining and Manufacturing Company) of St. Paul, Minnesota and its affiliate 3M Innovative Properties Company of St. Paul, Minnesota.

RELATED APPEALS AND INTERFERENCES

The Applicant's representative is not aware of any related appeals and interferences.

STATUS OF CLAIMS

Claims 1, 4, 6, 7, 9, 12, 15, 17, 21-23 and 27-29 stand rejected under 35 USC § 103(a) as being unpatentable over Eigenmann (US 4072403).

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Claims 5, 10, 11, 16 and 19 stand rejected under 35 USC § 103(a) as being unpatentable over Eigenmann (US 4072403) as applied above, and further in view of Clark et al. (US 5853846).

Claims 20 and 24-26 are withdrawn from consideration.

STATUS OF AMENDMENTS

The attached claims appendix reflects the amendments requested after the Final Rejection. These amendments were not entered. According to the Examiner, "the proposed amendment would not only require an additional search, but also is patentable distinct from the invention as claimed." However, the independent claims as originally filed did not include the feature that the pavement elements were "reflective" or "retroreflective". Accordingly, it is presumed that the claimed subject matter was already searched. The Applicant respectfully requests entry of the requested amendments.

SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent Claims 1 and 28 recite a method of making a pavement marker.

Independent Claims 12 and 29 recite a pavement marking article.

All of the independent claims include the feature of "pavement elements in a predefined pattern interconnected by a carrier web selected from the group consisting of a film or web or a water-soluble or water-dispersible polymer material, and a biodegradeable material".

The method of claim 1 recites "discrete pavement elements"; whereas the method of claim 28 recites "forming a frangible connection between a plurality of pavement elements."

Likewise, the article of claim 12 recites "discrete pavement elements"; whereas the article of claim 29 recites "a frangible connection between a plurality of pavement elements."

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The method of claim 28 includes the claim limitation "reflective pavement elements"; whereas the method of claim 29 includes the claim limitation "retroreflective pavement elements".

ISSUES TO BE REVIEWED ON APPEAL

Whether Claims 1, 12, 28, and 29 are obvious under 35 USC § 103(a) over Eigenmann (US 4072403).

GROUPING OF CLAIMS

The Applicant submits that the rejected dependent claims stand or fall with the respective independent claims.

ARGUMENT

According to MPEP 706.02(j), to establish a prima facie case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second there must be reasonable expectation of success. Finally, the prior art references must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure.

Does Eigenmann (U.S. Patent No. 4,072,403) teach a carrier web?

At p. 4, lines 24-31 of the present patent application recites:

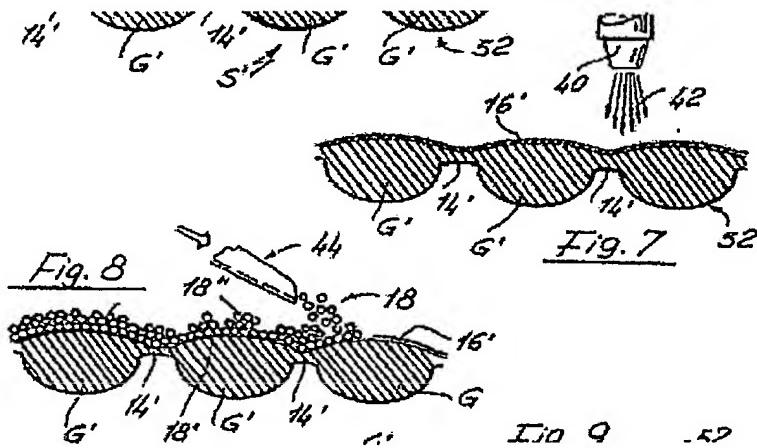
"The carrier web may be a material that is frangible, biodegradable, and/or capable of deteriorating quickly from abrasion and impact from roadway traffic, such as paper, a liner, an open scrim, a screen, a mat, or a film or nonwoven web of a water-soluble or water-dispersible polymeric material. The carrier web is conformable, typically preferably extensible."

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As reflected by the appealed claims, the Applicant amended the claims to recite a selection of these carrier webs.

In the Office Action of 3-25-2004, the Examiner rejected claims under 35 U.S.C. 102(b) as being anticipated by Eigemann. The Examiner stated that, "Eigemann discloses a marker and method of making pavement markers including forming an array of discrete retroreflective elements (G' of Fig. 8 for example) in a predefined pattern interconnected by a carrier web (16'). The elements (G) are bonded to the web (16'). There is a frangible connection (14') between a plurality of the pavement elements and the carrier web (Fig. 7, for example)."



In response to this rejection, the Applicant explained that reference numeral 16' of Eigemann is a thin layer of transparent polymeric binder that binds the microspheres to the underlying globule. This polymeric binder is not a carrier web (i.e. a web to carry the pavement elements), but rather a requisite component of the pavement marker.

In the Office Action of 2-7-2005, the Examiner alleged that reference number 14' is a carrier web.

In response to the rejection, Applicant explained that Eigemann relates to forming a sheet of material (L) into transparent globules. These transparent globules may be formed into discrete elements (such as shown in Figure 1) or the globules may be interconnected via 14' (as shown in

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Figure 5). Regardless of the embodiment, the globules (G') and the interconnected regions (14') are made from the same material. As described at column 3, lines 16-24, "sheet material L consists of a transparent polymeric material having a refractive index preferably comprises from 1.45 to 1.68 about. This material preferably consists of polymethylmethacrylate, or a copolymer of methylstyrene and methylmethacrylate, or a copolymer of styrene and acrylonitrile, or of polycarbonate, or also of an epoxy copolymer." Accordingly 14' is NOT a carrier web, but rather a requisite part of the pavement marker.

If one were to use a water-soluble, water-dispersible or a biodegradable material for 14', than the globules (G') would also consist of this same water-soluble, water-dispersible or a biodegradable material. This would result in the discrete retroreflective elements also deteriorating in a relatively short period of time, rather than merely the connection between the retroreflective elements and the carrier web deteriorating. Likewise, if one were to use a water-soluble, water-dispersible or a biodegradable material for 16', the reflective microspheres 18' would separate from the globules destroying their intended reflective properties.

Does Eigenmann teach a carrier web "selected from the group consisting of a film or web or a water-soluble or water-dispersible polymer material, and a biodegradeable material"?

In the Office Action of 5-23-05, the Examiner acknowledged that Eigenmann does not specifically disclose a water-soluble or water dispersible material.

Applicant notes that Eigenmann does not teach a biodegradeable carrier web either.

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CONCLUSION

For the foregoing reasons, appellants respectfully submit that the Examiner has erred in rejecting this application under 35 USC § 103(a). Please reverse the Examiner on all counts.

Respectfully submitted,

9-30-05
Date

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CLAIMS APPENDIXListing of All of the Claims

1. (currently amended) A method of making a pavement marker comprising the steps of: forming an array of discrete [reflective] pavement elements in a predefined pattern interconnected by a carrier web selected from a group consisting of a film or nonwoven web of a water-soluble or water-dispersible polymeric material, and a biodegradable material.
- 2 -3. (cancelled)
4. (original) The method of claim 1 wherein the step of forming the pavement elements interconnected by a carrier web comprises the steps of bonding the carrier web to an upper surface of the array of pavement elements.
5. (original) The method of claim 1 further comprising the steps of: applying a pressure sensitive adhesive to a rear surface of the pavement elements; and applying a release liner over the adhesive.
6. (currently amended) The method of claim [4] 28 wherein the step of forming a frangible connection comprises the step of at least partially severing the carrier web around a perimeter of the pavement elements.
7. (currently amended) The method of claim [4] 28 wherein the step of forming a frangible connection comprises the step of at least partially severing the carrier web around one or more groups of pavement elements.
8. (cancelled)

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9. (currently amended) The [process] method of claim 1 wherein the pavement elements are selected from a group consisting of retroreflective lens and single bead durable pavement elements.

10. (original) A method for applying the array of pavement elements of claim 1 to a pavement surface comprising the steps of:

interposing an adhesive between the pavement elements and the pavement surface; and
engaging the adhesive to the pavement surface under pressure.

11. (original) The method of claim 10 further comprising the step of removing a portion of the carrier web between adjacent pavement elements to form an array of discrete pavement elements adhered to a pavement surface.

12. (currently amended) A pavement marking article attachable to a pavement comprising:
an array of discrete [retroreflective] pavement elements in a predefined pattern interconnected by
and bonded to a carrier web selected from a group consisting of a film or nonwoven web of a
water-soluble or water-dispersible polymeric material, and a biodegradable material.

13-14. (cancelled)

15. (original) The article of claim 12 wherein the carrier web is bonded to upper surfaces of the pavement elements.

16. (original) The article of claim 12 further comprising a pressure sensitive adhesive applied to a rear surface of the pavement elements, and a release liner extending over the adhesive.

17. (currently amended) The article of claim [12] 29 wherein the frangible connection comprises slits around a perimeter of the pavement elements.

18. (cancelled)

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19. (original) The article of claim 12 further comprising an adhesive interposed between the pavement elements and the pavement surface.

20. (withdrawn) A pavement marker comprising:

discrete retroreflective pavement elements having a pressure sensitive adhesive layer on a bottom surface, the bottom surfaces being arranged in an array on a release liner; and
a carrier web bonded to an upper portion of the pavement elements capable of maintaining the spatial orientation of the array of pavement elements when the release liner is removed.

21. (previously presented) The article of claim 12 wherein the array of the pavement elements comprises a plurality of protrusions having side surfaces, the protrusions being retroreflective at the side surfaces.

22. (previously presented) The article of claim 21 having retroreflective beads on the side surfaces of the pavement elements.

23. (previously presented) The article of claim 21 having a cube corner retroreflective lens on the side surfaces.

24. (withdrawn) The article of claim 20 wherein the pavement elements comprise an array of raised elements having retroreflective side surfaces.

25. (withdrawn) The article of claim 24 having retroreflective beads on the side surfaces.

26. (withdrawn) The article of claim 24 having a cube corner retroreflective lens on the side surface.

27. (previously presented) The method of claim 1 wherein the array of pavement elements is formed as a plurality of protrusions having a retroreflective side surface.

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28. (previously presented) A method of making a pavement marker comprising the steps of:
forming an array of reflective pavement elements in a predefined pattern interconnected by a carrier web selected from a group consisting of a film or nonwoven web of a water-soluble or water-dispersible polymeric material, and a biodegradable material; and
forming a frangible connection between a plurality of the pavement elements.
29. (previously presented) A pavement marking article attachable to a pavement comprising:
an array of retroreflective pavement elements in a predefined pattern interconnected by and bonded to a carrier web selected from a group consisting of a film or nonwoven web of a water-soluble or water-dispersible polymeric material, and a biodegradable material; and
a frangible connection between a plurality of the pavement elements.

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Evidence Appendix

No evidence is being submitted pursuant to §§ 1.130, 1.131 or 1.132.

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RELATED PROCEEDINGS APPENDIX

None.